

31
cont'd

straight-vane impellers which, while less efficient, would allow bidirectional operation of the pump. Impellers 35, 37 are shown to be a radial-flow type which directs the flow from the passages between the vanes radially outward. Mixed-flow impellers, which direct flow axially as well as radially, may also be employed in some cases. However, mixed-flow stages do not provide as much pressure increase as radial-flow types, instead providing more velocity. A lubricant reservoir 42 of fixed volume is located below impeller 37.

Page 8:

BE

The increase in pressure in reservoir 42 forces the lubricant to travel up passage 25 where it enters holes 29. The pressure causes the lubricant to flow between bearings 27 and shaft 23 and to form a film in the interface, thus stabilizing bearings 27. The pressure must be maintained above a critical level to ensure the continued stability of bearings 27. Typically, the necessary pressure ranges between 30 and 100 pounds per square inch.

In the Claims:

Please amend claims 1-9, 12, 13 and add new claim 14 as set forth below:

483

1.(Twice Amended) In an electric motor having a shaft and a bearing located within a housing that is adapted to be filled and sealed with lubricant, the improvement comprising:

a plurality of centrifugal lubricant pump stages located in the housing, each of the pump stages having an impeller attached to and rotating with the shaft and a mating diffuser for pressurizing the lubricant; and